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RELATIVISM

IT is a tenet of many philosophers that there is some object of experience for whose existence the existence of anything else is not a necessary condition:[1] that, in other words, some substance can be known. Descartes regarded the self as a substance; Spinoza thought that God, and God alone, is conditioned by nothing outside himself; Leibniz believed that each monad is a self-determining substance. Locke and Berkeley took over the notion of substance from Descartes; and even Hume, though it is true he no longer considered the self and matter as substances, regarded each sense-datum as entirely independent of everything else. Hegel and the absolutist school of philosophers, while firmly denying that any particular thing is independent for its existence of all other things, assert that the universe knows itself as a complete whole, conditioned by nothing outside itself. At the present day, there is a very influential school of philosophers, embracing, among others, the authors of the "New Realism," in America, and Mr. G. E. Moore, in England, who hold that we have *knowledge by acquaintance* of certain sense-data and objects of introspection, and that these objects of acquaintance are entirely independent of anything else for their existence.

It will be noticed that those views which hold that self-sufficient experience exists divide themselves naturally into two classes, according as to whether or not they hold that any object less in range than the whole object of an experience can be experienced self-sufficiently. Those who hold views of the first class believe that we experience certain particular objects, such as the self or certain sense-data, whose existence is conditioned by nothing outside themselves; those who hold views of the second class believe that there is only one substance—the universe. Descartes, Leibniz, the English empiricists, and Mr. Moore hold positions of the former type; Spinoza, Hegel, and the absolutists are adherents of the latter doctrine.

[1] Throughout this paper I shall speak of the knowledge or experience of an object which does not depend for its existence on the existence of anything else as a *self-sufficient* knowledge or experience.

It is an argument often used by philosophers of the second type against those of the first that in so far as we are experiencing something whose existence is independent of that of anything else, we can only get information from the experience which is independent of the existence of anything else, and hence irrelevant to everything else. Whatsoever self-sufficient experience I may have must float down the stream of my consciousness as passively as a chip of wood on a mill-stream. If the particular patch of red I am perceiving at this present moment could be exactly the same patch of red whatever the context in which it occurs might be, then my sensation of this particular patch of red can throw no light on the context in which it occurs: it would not in itself be an experience of red as distinct from green, nor an experience of a color having certain physical and psychological properties, nor an experience of the color known as "red," nor even of the thing before me at the present moment. Even "this" is far too descriptive a name for it. Such an experience can not be used as the ground of explanation of any other experience: for all the part it plays in my consciousness, it might be known by some one else instead of by myself. Indeed, the only meaning which I can attach to the statement that a certain item of experience belongs to me is that it belongs to a system of experiences internally relevant to one another which I call myself. At any rate, any self-sufficient experience I may have is a mere excrescence on the rest of my consciousness, and nothing in the rest of my consciousness can give the slightest evidence of the existence of self-sufficient experience.

This argument only tends to prove the uselessness of self-sufficient knowledge of particular things for explanatory purposes, and those who believe in its existence might still retort that they are intuitively certain of the existence of self-sufficient knowledge of particular things, entirely apart from the usefulness such knowledge might have for explanatory purposes. But there is a far more vital difficulty which Mr. Moore and those who hold similar views encounter. To say that something exists whose existence has no necessary condition other than itself is equivalent to saying that something exists which can exist in isolation, for the only meaning of, "*a* is not a necessary condition of *b*," is, "in some cases *b* exists and *a* does not." Now, to say that *a* can be isolated from everything else, and yet be the same thing as the *a* that now exists in the context of our experience, is self-contradictory. For, if it were completely isolated, *it would be isolated from its identity with the* a *which now exists in the context of our experience, and would not be the same* a *which now exists in the context of our experience.* Even if the whole world, except the particular patch of red I am looking at, should be abolished at this present moment, it is only by virtue of the *relation it would*

have to the world which had been abolished that this patch would still remain the same patch of red as the one at which I am now looking. To say that x is in some relation to y, and that z is in no relation to y, and that z has some sort of sameness with x, is clearly self-contradictory, for in this proposition we assert a very definite relation between z and y.

In fact, the very hypothesis, "If a were isolated," refutes itself, for a is in a context if it is a possible argument to the propositional function, "a is isolated." It is true that one may argue that the definition of the proposition, "a is isolated," may still be determined in such a manner that even under this condition a would be isolated,[2] but this argument only carries weight if one believes that the proposition, "a is isolated," can have some sort of existence with nobody to assert it. If this is not the case, "a is isolated," will contradict itself, because, in order for this proposition to be a proposition at all, it is necessary for a to be in relation to some knowing subject. This is *a fortiori* necessary if it is to be a *true* proposition. And it is extremely hard to see what meaning there can be in saying that a proposition exists without reference to the possibility of its being asserted by some subject.

At any rate, it is not true in any significant sense that the objects of experience would be exactly what they are now if they were in isolation. If a sense-datum is to enter into the system of our experiences, it must be in relation to this system from the beginning. Moreover, the introduction of self-sufficiently given relations between the self-sufficiently given terms of our experience would in no way render it a coherent experience, as Bradley has so well pointed out. If I know "black" and "darker" and "white," I do not, *eo ipso,* know "black is darker than white," nor any objective situation these words may represent. These terms and this relation would give me just as readily, "white is darker than black." It may be retorted, "No. It is true that the terms and their relation alone do not give us the required proposition, but the terms, their relation, *and their order* do." It is easy to see the futility of this answer. Let B and W stand for "black" and "white," respectively, $D(x, y)$ for "X and Y are in the relation, 'darker than,'" and XPY for "X precedes Y in the relation, 'darker than.'" "Black is darker than white" will then be represented by the symbols $D(B, W)$ and BPW, while "white is darker than black" will be represented by the symbols $D(B, W)$ and WPB. In both of these, B, W, D, and P may be found. It is clear that this method of proceeding will give us no results: from the terms *and* their relation we can never get to the

[2] One may say, *e. g.*, that a is isolated when it is in relation to no particulars except facts of which it forms a component.

terms *in* their relation. To be brought into connection by a given relation, the terms of that relation must be known initially as related, and hence our knowledge of each of them by itself can not be mere knowledge by acquaintance.

It thus becomes clear that in addition to any self-sufficient knowledge we may be supposed to have of items of experience less than the whole of our present experience, we must experience in relation from the very beginning everything we ever know in relation. Our experience, if given at all, must be given as a system. Moreover, no property of this system can give the slightest evidence in favor of the existence of various items of self-sufficient experience, in addition to our experience of this system, since, as we have shown, we can never proceed from a self-sufficient item of knowledge to any further knowledge. Our experience must be coherent in cross-section.

But it is not enough that our experience should be coherent in cross-section: it must also be coherent in sagittal section. If each moment of our experience would be precisely what it is if neither past nor future existed, then the experience of a moment would, to all intents and purposes, constitute my whole personality at that moment, and I would be undergoing a continual alteration of personality. It is indeed a logical possibility that our present is entirely dissociated from our past: that the I which writes this word is an entirely different person from the I that crosses this t. It is, however, a view which nobody will hold, for if it were true, our memory would be but an illusion, and our expectation a vain self-deception. Though at each moment we might have an illusion of the permanence of our experience, that illusion would have no permanence. Our ideas would spring into being full formed, like Athene from the head of Zeus. That this may not be the case, that our experience may possess longitudinal coherence, it is necessary that the successive instants of time should be known in relation to one another, and hence that each moment should not constitute a self-sufficient object of experience.

It does not render our experience temporarily coherent, moreover, to regard it as made up of a series of self-sufficient experiences, each of finite duration. For, suppose that the maximum duration of such an experience is t seconds. Let A, B, C, and D be a sequence of instants of physical time following one another in the order given. Let the durations of the intervals AC and BD each be t seconds. Then the experience of all those moments between A and C preceding C by an interval less than t seconds will form our self-sufficient experience at C. Nowhere else will we experience the interval AC immediately: at any moment before C, C will be as yet unexperienced, while at any moment after C, the lapse of time between A and

that moment being greater than t seconds, A will have passed forever beyond our present self-sufficient experience. Similarly, the only moment when the whole interval between B and D is experienced in one self-sufficient experience is D. Though AC and BD have BC in common, it can never be learned from any of our self-sufficient experiences that they possess this in common: this can never be known before D, for then BD is as yet unknown as a whole, nor after C, for then, since the experience of A no longer forms a part of the self-sufficient experience of the moment, AC has passed beyond any self-sufficient experience. Even though the duration of the *objects* of our self-sufficient experience would thus be more than momentary, we would have at each moment one self-sufficient experience, and one only, and no self-sufficient experience would have any duration.

So far, the arguments we have been using are such as the absolutists use to prove absolutism. The absolutist of the type of Bradley starts with the presumption that the completely real must be that which as an object of knowledge is completely self-sufficient, and, by arguments such as those we have used above, shows that if any part of an experience be self-sufficient, it will not in any significant sense be part of that experience. So far I agree with the absolutist, but when he confidently asserts that there *must be* some completely real and self-sufficient experience, I must part company with him. For his absolute experience is not experienced in its self-sufficiency by any human being. Human experiences possess too many lacunæ for any one to hold that view. Our mind is continually stretching out tentacles to the past and the future: here we search for a memory forgotten, there for the verification of a prediction. It is only in its "relative manifestations" that the absolute can be an object to us, and in its relative manifestations, as an object of our consciousness, the absolute fails to attain perfect self-sufficiency. The absolute, *qua* absolute, is a mere name to us, and must from its very nature be entirely irrelevant to anything we can ever know. As has been often said, if the absolute is self-sufficient, then no appearances can emanate from it, for if it enters into relation with any appearances outside itself, it fails to attain self-sufficiency. And though it be said that the appearances are contained in the absolute, not even the absolutist will admit that the *partiality*, the *relativity* of these appearances is so contained. But the moment anything can be found which may in any way be contrasted with reality, then reality becomes a mere partial reality, and any experiences which we may have of it are on the same plane as other partial self-sufficient experiences, so that absolutism is open to precisely the same objections it raises against other philosophical views.

It is no answer for the absolutist to retort that the absolute has a completely self-sufficient knowledge of itself. The absolutist believes in the existence of the completely real because he considers it the true object of *his own* thought. But he finds that it is never the object of his thought, in its complete reality. What should his conclusion be, then? That the completely real exists in its complete reality independently of his thought? It may have such an existence or it may not; which alternative is the true one no argument on the basis of human knowledge can indicate. But what is clear is this: the true object of our human thought is *not* the completely real, and all reality that we know is relative and partial. The absolutist quite correctly shows that the world of knowable particulars does not contain his reality, as such, but he fails to make the obvious inference that it is his notion of reality, and not the world of knowable particulars, which is at fault and should be regarded as mere appearance. The real conclusion to which the absolutist argument should lead us is that in no significant sense can we assert the existence of self-sufficient knowledge.

But if no knowledge is self-sufficient, none is absolutely certain. For if we are not sure that any experience would be what it is in entire isolation from everything else, we can know no propositions in such a manner that our mere awareness of them guarantees our knowledge of their truth, for the simple reason that we can never have, in any significant sense, a *mere* awareness of them unrelated to the other objects of our consciousness. We can, that is, have no knowledge which is certain *a priori*. Now, every proposition known with absolute certainty must be obvious *a priori*, or deducible by infallible means from a set of propositions known with absolute certainty. In the latter case, we may know *a priori* when we have exhausted the presuppositions of the given proposition, or this may be discovered by an infallible deduction from a set of presuppositions known with absolute certainty; and so on indefinitely. But since, as we have seen, we have no knowledge certain *a priori*, we are driven to the conclusion that there is no absolutely certain knowledge at all, for to any given set of presuppositions for a given proposition which is to be proved with absolute rigor, there must be adjoined other propositions from which it can be deduced that the original set of presuppositions contains everything that is necessary for us to know in order to deduce with absolute rigor the desired proposition, and so *in infinitum*. Without self-sufficient knowledge at some point or other, we can never arrive at *all* the presuppositions of any proposition.

Since we can never arrive at *all* the premises of any proposition, although no knowledge is self-sufficient, no knowledge is merely

derived; that is, more is said in any proposition than in any set of premises we can assign to it. Even the propositions of geometry do not follow merely from the axioms of geometry. The axioms of geometry are stated in some language, either of words, or of symbolism, but it is not merely so many queer marks on paper, so many sounds, that go to make up the axioms of geometry. No! These marks or sounds must be interpreted according to certain rules which collectively constitute the *grammar* of the language of words or symbolism in question, and these rules, as well as the axioms of geometry, themselves, condition the propositions of geometry. But these rules, too, must be applied, and we need further rules by which to apply these, and so on indefinitely. At some stage or other we come to rules which are not written or spoken, but only thought,[3] but in so far as they are definitely formulated rules, they must be applied in accordance with further rules. The so-called "laws of thought" are no exception: to make use of the law of contradiction, you must have some criterion which will enable you to identify a proposition. As Mr. Russell has pointed out, no law can cover itself as a special case of its field of validity, so that the "laws of thought" can not themselves dictate the mode of their application.

The views I have stated above—that no experience is self-sufficient, that no knowledge is absolutely certain, and that no knowledge is merely derived—I call collectively "relativism." It is obvious on the face of it that relativism is closely related to two great tendencies in modern philosophy: pragmatism and the metaphysics of Bergson. Like both these theories, it is a protest against mere formalism in metaphysics. Pragmatism insists that every philosophical theory should be judged by the value of its consequences for action; Bergson holds that the intellect alone gives us but a superficial account of the universe—that it is by intuition, by that species of thought which allows the mutual interpenetration of idea with idea, and does not insist that concept shall be separated from concept by rigid formal definitions, that we really grasp the inner meaning of reality; relativism insists that the supposed absolute rigidity of the definitions used in metaphysics is but a fiction, that no concept can mean what it does entirely independently of everything else.

[3] It is our inability to give any exhaustive set of rules for any language of words or of symbolism which makes every grammar contain *idioms* (*i. e.*, words or phrases or symbols whose use is not adequately explained by the rules of grammar). Since any set of rules is inadequate to express all the usages of any language, to understand any language of words or of symbols, we must enter into its *spirit*. This "spirit of the language" consists in the rules which are thought, but not formulated in words, and the still greater body of usages which are rather felt than formally thought. Even in mathematical symbolism, it is necessary for the student to "enter into the spirit of" the symbolism.

To all these theories the universe is, to all intents and purposes, infinitely complex: at any rate, they all regard the infinite complexity of the universe as an object of knowledge, as a hypothesis incapable of ultimate disproof. For pragmatism regards the universe as just as complex as it is profitable to regard it, and does not consider it possible to determine this in advance; Bergson considers all analysis of the universe, from the very nature of analysis, inadequate; while relativism shows that we are unable to find any notions themselves independent of all analysis (*i. e.,* self-sufficient) in terms of which we can analyze the universe. Pragmatism, Bergsonianism, and relativism are three forms of anti-intellectualism.

Moreover, relativism agrees with pragmatism in the manner in which it criticizes intellectualism. Why is it that we have condemned absolutism or the philosophy of acquaintance? Not because it is necessarily *false,* but because its truth is *unverifiable;* because the existence or non-existence of the absolute, or knowable by acquaintance, would not be distinguishable from its presence—its presence would lead to no *significant* results. But the cardinal notions of pragmatism are that the truth of a theory consists in its verifiability, that only that which is distinguishable from something else is distinct from it, and that no theory is either true or false except in so far as its consequences are significant for human action. That is, our dialectic showed that the views we criticized are not true by proving that they are unpragmatic.

But the fact that we have made use of the pragmatic method in criticizing other views does not necessarily commit us to the acceptance of the pragmatic criterion of truth as an ultimate criterion. We are not compelled by anything we have said above to make the unqualified assertion that the whole meaning of a conception expresses itself in its practical consequences. Indeed, taking the words as they stand, we can not accept this as final, for in no significant sense has a conception a "whole meaning," nor are we able to give a *perfectly* adequate account of what we mean by its "practical consequences." As the pragmatist is the first to urge, no conception has a meaning except in some particular context or other, and in no significant sense can we ever arrive at the *total* context of any concept. Every concept we can mention is particular and partial. Moreover, the notion of the "practical consequences" of a view is extremely vague and indeterminate, and can not possibly be regarded as an ultimate. Does the phrase mean those consequences which satisfy or fail to satisfy some of our particular purposes, or any of our purposes, or all of our purposes? Just when is a mental state a purpose, after all? These questions and many more must be answered once for all before we can accept the pragmatic criterion

as an ultimate. Pragmatism can claim only to be a better *relative* standard of truth and falisity than the views it opposes: as an absolute standard, it is open to the objections we have raised against all views which claim to have attained complete truth. And even as a relative standard, whatever our individual opinions on the subject may be, there is nothing in relativism *per se* which compels us to admit that pragmatism has any advantages over any other theory of the nature of truth. The fact that the relativist denies the existence of the *pure* reason does not in itself demand that he should believe in the primacy of the *practical* reason, in the Kantian sense of the latter term. As Mr. Russell has emphasized in his essay on "Pragmatism" in his "Philosophical Essays," open-mindedness is not the exclusive prerogative of the pragmatist.

I do not think, however, that James would have claimed seriously that pragmatism has attained any absolute truth: James was too open-minded a man ever to become quite dogmatic. But the humanism of Schiller claims to be nothing if not final. Schiller treats his fundamental proposition, "Man is the measure of all things," as though it were an ultimate truth. Now, it is easy to see that, taken in any absolute sense, this is either a tautology or an error. For what constitutes a man? It is not as subject that our self can be made the measure of all or of any things; it is only the self as known, as object, that can be made such a measure. But what is the self as known, the empirical ego? As James pointed out, we have many empirical egos: we have a social, a professional, a business, a religious self, etc. No one of these is the measure of *all* things: our religious self is the measure of religion, our business self of business, etc. But, it will be said, it is our empirical ego taken in its widest sense, embracing all these, that is the measure of all things. But is this not a mere tautology? Is not the empirical ego but another name for that which is central in our experience, for that to which other experiences are related? Is not the sole reason that man is the measure of all things, that "man," taken in this sense, is a mere synonym for "the measure of all things"? If one define "man" by naming the body, or the body and certain particular experiences closely related to it, one will only get a relatively imperfect measure of all things: just as the inch is no longer the length of the royal thumb, nor the ell the length of the royal arm, so most of our criteria become progressively dehumanized, though, of course, since no two things are completely out of relation, they never completely lose their connection with the self. But it is only in this relative sense, where "man" stands for certain central aspects of our experience, which can not be delimited with absolute rigor, that "Man is the measure of all things" is significantly true. And even here it would be better to

say, "Man is a factor entering into the measurement of all things, and the most significant factor in the measurement of many, perhaps most things," than merely, "Man is the measure of all things." Humanism is partial in precisely the same sense that the humanists accuse naturalism of being partial, though perhaps not to the same degree.

But, all things considered, relativism is far nearer to pragmatism than to Bergsonianism. Relativism only objects to pragmatism in so far as it seems to claim to have said the last word in philosophy: a relativistic pragmatism is quite possible. But Bergsonianism contains elements which are essentially non-relativistic. Bergson postulates gulfs which can not be bridged between homogeneous duration and mathematical time, between purposes and mechanism, between life and matter, between language and thought, between that intuitive thought which allows the mutual interpenetration of idea with idea, and intellectual thought,—that thought which deals in absolutely hard-and-fast concepts and clear-cut distinctions. The world is for Bergson divided by a set of fundamental dichotomies, which are made with absolute sharpness. Though he believes that the opposing sides of these dichotomies are found everywhere intertwined and interrelated with one another, their opposition is for him a fundamental and irreducible fact. Now, to suppose the existence of absolutely sharp distinctions runs directly counter to the spirit of relativism, and, I believe, of Bergsonianism itself. For Bergson, in a quite relativistic way, believes that our only way of attaining a true insight into the inmost nature of the world is by a sort of thought which does not admit absolutely rigid distinctions or clean-cut concepts—the kind of thought he calls intuitive. Intellectual thought he regards as giving us only a surface view of the universe. Therefore, judged both by its own criteria and by those of relativism, Bergsonianism fails to give us an adequate insight into the true nature of things, for it treats the world as made up of two absolutely separate, irreconcilable halves. Bergsonianism gives a highly intellectualistic account of the universe, tending to show the inadequacy of intellectualism. It is true, M. Bergson states that the intellectualistic form of his presentation of metaphysics is only the hull in which a really intuitive treatment is concealed, yet it seems to me that his unbridgable antitheses are in spirit even more intellectualistic than in form. Certainly, they satisfy all the criteria he gives of intellectual in contradistinction to intuitive thought.

It seems to me that Bergson's error arises as follows: Bergson believes that the physical sciences and mathematics deal with notions that are absolutely rigid. He thinks that there is a more or less independent, purely intellectual world, within which these disciplines

move, though he regards this world as of derived and secondary importance. Though the world of space and matter is for him but a surface-world, but the external manifestation of the true world of time and life, it is a world of pure space and pure matter and *pure forms,* uncontaminated by any taint of time or of life or of the "mutual interpenetration" of idea with idea. Whether this world is or is not ever found in entire separation from time, life, and intuitive thought is of no essential importance: Bergson supposes that this world has *some sort* of an independent existence. But we have seen that such a world is a mere nonentity; that natural science, like every other intellectual discipline, must deal with imperfectly defined concepts, and hence must permit a certain amount of the interpenetration of idea with idea. Even in the case of mathematics, the most abstract and most formal of all disciplines, we have seen that no assignable set of rules will ever exhaust the conditions of the validity of a single deduction; we have seen how the very use of a symbolism is conditioned by our thinking according to the *spirit of the symbolism,* which can never itself be exhaustively and adequately symbolized. No! Bergson's dualism is a false one: pure formal thought exists only as a misinterpretation of mathematics by Bergson and certain formalistic philosophers of mathematics. Only the realm of the mutual interpenetration of idea with idea really exists.

But even this realm does not exist quite as Bergson conceives it. Since Bergson regards mathematics and the allied sciences as purely formal disciplines, and puts them in a world by themselves, he is forced to consider the realm of the mutual interpenetration of idea with idea as free from all taint of mathematics. In our true insight into the world, he believes, we cast aside the shackles of formal reasoning, and with a sort of a systematical intuition perceive immediately the inmost nature of reality. Scientific reasoning, though perhaps necessary as a propædeutic to our final appreciation of reality, is entirely transcended by it. This mysticism is the necessary result of a belief in the purely formal character of mathematics and physical science. But, if we do not believe that mathematics and physical science are purely formal, if we believe that these disciplines admit of and even demand the "mutual interpenetration" of idea with idea, then there is no ground for thinking that they, too, do not play their part in our true insight into the universe. Indeed, there is no metaphysical reason why the extremest claims ever made for the value of mathematics and science as factors in the explanation of the universe (provided that these claims do not demand that mathematics or science should be ultimate) should not be true. Bergson sets up a windmill, calls it physical science, and then charges it most valiantly. But it is only because it is a windmill, and not true science, that he attacks, that he comes off victorious.

We have explained what we mean by relativism, and wherein it differs from other philosophical beliefs, and we have given certain reasons which seem to justify our preference for it. But before we close this paper we must consider certain objections which have been raised against some of the views which go to make up the relativistic position. Bradley raises an objection against our position which might seem at first sight fatal. He says,[4] "In theory you can not indulge with consistency in an ultimate doubt. You are forced, willingly or not, at a certain point to assume infallibility. For, otherwise, how could you proceed to judge at all? The intellect . . . in the intellectual world . . . must remain supreme. And, if it attempts to abdicate, its empire is forthwith broken up. . . . Even the extreme of theoretical skepticism is based on some accepted idea of truth and fact. It is because you are sure as to some main feature of truth and reality, that you are compelled to doubt or to reject special truths which are offered to you. But, if so, you stand on an absolute principle, and, with regard to this, you claim, tacitly or openly, to be infallible. And to start from our general fallibility, and to argue from this to the uncertainty of every possible result, is in the end irrational. For the assertion, 'I am *sure* I am everywhere fallible,' contradicts itself, and would revive a familiar Greek dilemma."

Bradley's argument here is vitiated by the ambiguity of the term, "doubt." "Doubt" may mean (1) the absence of certainty, or (2) disbelief, or (3) an attitude of active questioning. In the first sense, I may be said to have doubts of the law of the conservation of energy, because no proofs which may be given of it are adequate to establish it as more than an approximation, but that does not mean that I disbelieve it, nor even that I actively question it. Bradley is right in saying that an ultimate disbelief in every proposition, or even an ultimate questioning of every proposition, is impossible, for every disbelief or question is possible only on the basis of some belief which is not at the same time questioned. If I disbelieve that $2+2=4$, I believe that $2+2\neq 4$, and if I question whether $2+2=4$, I do so on the basis of some further mathematical notions of mine which I leave unquestioned for the time being. But an ultimate uncertainty is not by any means impossible. The fact that any uncertainty must have a ground does not lay upon us an eternal injunction never to be uncertain of this ground—in fact, my very uncertainty whether there is a ground for doubting a given proposition or not is a sufficient ground for my uncertainty of its truth. The principle on which I stand in any doubt I need not regard as infallible: I may simply consider it extremely plausible. True, if we

[4] "Appearance and Reality," page 512.

had the bare alternative before us of criticizing the principles of our doubt while we are doubting, or not criticizing it at all, Bradley's argument would hold, and I would need an absolute principle as the ground of my doubt. But this is not so: the fact that I have once considered a proposition without questioning it does not mean that I have thereby relinquished forever my right to question it. Moreover, the true doubter would not say, "I am sure I am everywhere fallible;" or, if he said it, he would not regard the certainty asserted as absolute. For to say with absolute confidence, "I am sure I am everywhere fallible," you must have an absolutely adequate knowledge of wherein fallibility consists, and what constitutes sureness. And these concepts, like all concepts, can only be defined in terms of concepts themselves requiring further definition, and so *ad infinitum*. So, in a very significant sense the relativist may be said to regard his very uncertainty as uncertain. Relativism only claims to be relatively true.

But the moment we take this view of relativism, the dialectical refutations we have made of other views take on a new aspect. For if we admit the correctness of these refutations is only relatively certain, the views refuted may still retain something of relative truth. Absolutism, Bergsonianism, the philosophy of Mr. Moore, and all the views we have opposed will, looked at from this new standpoint, have a certain amount of truth in them. In what sense, then, has our refutation been a refutation at all? If these views, when crushed to earth, rise again, why should we not regard them as true? Should we not rather regard what we have considered a refutation a dialectical corroboration of these positions, showing that their very denial involves their assertion?

No! for although all propositions are relatively true, not all relative truths are of the same value. Though no absolute refutation of any view is possible, a relative refutation is. And what we have really shown concerning the views we criticize is this: any sort of truth they may have is very different in character from what we ordinarily call truth. We have attempted to discuss the views we oppose, and see what consequences they would lead to if they meant anything at all similar to what they appear to mean, and we have seen that these conclusions are very paradoxical, to say the least. Perhaps by some distortion of language they may be made to represent some significant reality, but such a distortion would have to be very far-fetched. Though the views we have criticized are only relatively uncertain, their degree of certainty, if taken as they stand, is much lower than that of relativism. This does not necessarily mean, however, that they are not perversions of views of a high degree of certainty, couched in relative terms.

But those who hold the views I criticize may answer, "Yes, *relatively* speaking, our views may be of a low degree of truth, but *absolutely* speaking, they are known with absolute certainty. You yourself admit that the validity of your arguments is only relatively certain, and that you only prove the relative dubiousness of other views. Hence, your arguments do not at all concern our claims to have reached absolutely certain conclusions." This argument is, strictly speaking, unanswerable, for the same reason that mysticism, and all philosophical views which claim to be supported by some brand of knowledge essentially different from the sort of knowledge we recognize ourselves to possess, are unanswerable. If my opponents actually meant by absolute knowledge something generically different from relative knowledge, then no arguments on the basis of relative knowledge could overthrow their faith in absolute knowledge. If one believes that, for example, in the contemplation of the absolute we have an insight into the nature of the universe different, not in degree, but in kind from the knowledge we have of "appearances," no argument can refute him. But I do not personally experience any different sort of knowledge than the relative knowledge of which I have given an account in this paper; and I believe that it is the results of this knowledge that the views I criticize mean to express. I believe that both the experiences of the absolutist, the acquaintance philosopher, the pragmatist, and even the Bergsonian, and the set of notions which they use to analyze their experiences, are radically similar to my own. I believe I am not talking entirely at cross-purposes with every other philosopher. Just as the absolutist thinks that all other philosophical views are incomplete absolutisms, and as the pragmatist thinks that all other philosophical views are inadequate pragmatisms, so I must think that all philosophies are nascent relativisms. This may seem a tremendous act both of faith and of presumption, but it is the sort of act of faith and presumption that every one who holds a philosophical position must perform before his view can enter the lists against other philosophies.

We have seen, then, the bearing on relativism of the objection to it on the score that a universal doubt is impossible. There is another ground on which it might seem that valid criticisms of relativism could be based. It is clear, as we have shown, that relativism demands that experience should be, at least potentially, infinitely complex. For since no knowledge is self-sufficient, each item of knowledge means what it does only in relation to the objects of other items of knowledge, which, in turn, are what they are only in relation to the objects of still other items of knowledge, and so on indefinitely. To some people the notion of infinite complexity seems repugnant. "What!" they will say, "Does each item of knowledge demand reference to

other items of knowledge? Is no experience simple? In the first place, this would make all knowledge absolutely, not relatively, uncertain, for it would demand a detailed knowledge of the universe before we could have any knowledge of any part of it. In the second place, the human mind rebels against the notion of infinite complexity."

Such criticisms of relativism, plausible as they may seem, are not really valid. For, in the first place, relativism does not say that in order to have any comprehension of any item of knowledge we must refer it consciously to all or any other items of knowledge. Relativism does not deny that we may have "innate ideas," or other forms of instinctive knowledge. It is not the temporal, but the logical *a priori* that it questions. It merely says that any new knowledge we acquire must be internally *relevant* to our previous knowledge: that only in proportion as it is thus relevant is it knowledge at all. It does *not* impose upon us the psychological task of experiencing each item of experience in conscious proximity to every other item, but simply cautions us that we are never sure that we are done with our labor of comparing one concept with another, of criticizing each notion and theory of ours on the basis of our other theories and notions. The former task can indeed never be accomplished, and if relativism claimed to be a psychological theory of what actually occurs in our minds, we would have to regard knowledge as not relatively, but absolutely impossible. The latter task, though, from the nature of the case, it can never be finished, is by no means futile. Is the physicist discouraged because he knows that neither he nor any one else will ever be able to verify a single law of physics with more than approximate accuracy? Indeed, does he not expect with confidence that the next twenty or thirty years will bring new formulations of almost every physical law? The notion of the infinite complexity of experience which relativism demands is none other than that which the scientist has long made use of: it is merely the notion of the infinite *potential* complexity of experience. It is our *right* to analyze every concept, not our *duty* to analyze any concept exhaustively, on which the relativist insists.

In the second place, I doubt whether the human mind feels any great repugnance against the notion of infinite complexity. Against the spread-out infinite complexity which Royce attributes to the absolute experience, I, at least, it is true, feel an instinctive repugnance. But, as we have just been saying, this is not the sort of infinite complexity which relativism holds to exist. The relativist believes that everything, in so far as it is understood adequately, is understood in relation to other things,—that our analysis need never come to a definitive stopping-place. And I think that that critic to

whom all philosophers sooner or later appeal—the common man—will agree with me in this. He is never satisfied when, in answer to some question he asks, the metaphysician says, "This is ultimate, and hence inexplicable." For him, there is a "why" to everything, and everything has a structure, if only trouble is taken to find it. In the same frame of mind in which he expected the atom to be divided and confidently expects the electron to be divided, he distrusts those who tell him that certain of his experiences are simple and unanalyzable. The common man is, as a matter of fact, a thorough relativist: an "instinctive" repugnance against the belief in the infinite complexity of the universe is only to be found among those who, like the White Queen in "Through the Looking-glass," have schooled themselves long and carefully in believing impossibilities.

The scientist too, I repeat, is an out-and-out relativist in all that concerns his science: in all, that is, that he does not take over on faith from the technical philosopher. He realizes full well that his instruments give only approximate readings, that his observations record only approximately the readings of his instruments, that his laws and his formulæ are mere approximations, and that even the margin of probable error which he calculates for his readings and his laws is only approximately determined, so that he never has a completely accurate knowledge of the degree of approximateness of his approximations. It is even only with approximate certainty that he knows that certain approximations are more accurate than certain other ones. In his whole work, presuppositions and conclusions together, he knows that he may search in vain for a single absolutely certain fact. Yet he works on, correcting approximate hypotheses with the aid of others also approximate, wearing them down by a sort of mutual attrition, much as the grinder of mirrors secures for his mirrors a highly accurate plane surface by first grinding two approximately flat pieces of glass together, then grinding each in turn against a third similar piece, then grinding them together again, and so on indefinitely. Our physics of to-day is the product of the imperfect physics of the past, much as the tools of the modern smith were forged in the smithy of yesterday. And just as the imperfection of the tools of the past smith conditions the perfection of the tools of the present day, so the inadequacy of the past determinations of physical constants and laws prevents our present determination of these constants and laws from being completely adequate. As the steam-hammer of to-day is the lineal product of the first stone hammer used by primitive man through many generations of hammers, each used in making the next, and therefore must share, though in an infinitesimal degree, its deficiencies, so modern science is the lineal product of the crude physics of common sense, and partakes to some

slight extent in its inadequacy, because it is obtained from it by a self-criticism which is always incomplete because it is a *self*-criticism. Science begins, remains, and ends in approximations. Yet this does not mean that it ends where it begins: we are as certain as we can be of anything that the approximations of science to-day are, in general, better than those of science yesterday, and not so good as those of science to-morrow. We are quite sure that a new statement of a law of science almost invariably marks an advance on all previous statements. Yet, be it noted, we never judge whether any scientific hypothesis is better or worse than another by any criterion which is itself known to be more than approximately true.

But if, as we have seen, approximate knowledge is recognized to exist in physics without any certain knowledge to back it, while physics is recognized by all to present us with the most certain propositions we can reach, short of pure mathematics, it is clear that relativism can not be accused of denying the existence of all certainty, or of being a mere negation of all belief: it is only when one thrusts upon the relativist a false dilemma between an absolute certainty and an equally absolute ignorance that his view may be made to appear in that light. Relativism is a philosophy of doubt, but it is of a liberating, not an enslaving, doubt that it is the philosophy. To the relativist, the incompleteness of science does not condemn it to deal with mere appearance: the fact that it has given us no perfectly certain results is no index of its failure. Relativism admits the existence of certainty, of any degree of certainty short of absolute certainty. Though it considers that even the best approximation is subject to criticism, it does not regard this as preventing us from giving the *brevet rank* of absolute certainty to items of our knowledge, and using them as a basis for the criticism of other knowledge, without, at the same time, criticizing them. And it will not permit the relative certainty of our scientific knowledge to be degraded to the rank of mere "appearance" at the behest of any metaphysical theory.

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EXPERIMENTS IN JUDGMENT

INVESTIGATIONS have been made as to the laws and behavior of judgments, and the practical importance of such work has been shown in many branches of psychology. No attempt will be made to review the literature of this subject, but attention may be called to the work of Cattell,[1] Barrett,[2] Strong,[3] Thorndike,[4] Walton

[1] Cattell, "Professor Cattell's Studies by the Method of Relative Position," H. L. Hollingworth, *Arch. of Psych.*, No. 30, 1914.

[2] Barrett, "Order of Merit Method and Method of Paired Comparisons," this JOURNAL, Vol. X., pages 382–84. *Psych. Review*, September, 1914.

and Ross,[5] Wells,[6] and especially to Hollingworth's "Experimental Studies in Judgment."[7] In the last-mentioned monograph several problems are suggested and questions raised. To report an attempt to answer some of these questions and to offer further data on several conclusions there tentatively drawn is the purpose of this paper.

Thirty-four subjects, all juniors and seniors in Barnard College were asked to judge, by the order of merit method,—weights, handwriting, photographs (faces), and propositions, for heaviness, legibility, kindliness, and belief, respectively. There were fifteen items of each material, and two arrangements were made by each observer, one week elapsing between the two trials. The weights were all of the same size and shape and varied from 100 grams upward, each being $\frac{1}{20}$ heavier than the next lighter. The specimens of handwriting were those in Thorndike's scale. The photographs were the size of post cards, eight of women and seven of men. The propositions varied: "2 plus 2 equals 4," "2 plus 2 equals 7," "Opals are unlucky," "George Washington was a real person," "Virgil wrote Æneid," etc.

The position assigned to each item by each individual for both arrangements was recorded, and from these data the average position for each item was calculated. The order of these average positions was considered the objective order. Since "the judgments of the same individual at different times are theoretically quite comparable to those of different individuals regardless of the factor of time," this objective or correct order was obtained from sixty-eight arrangements. The order for weights was identical with that determined by actual physical measurements, and that for handwriting corresponded to Thorndike's scale. In the other cases there were no standardized scales available for comparison.

The arrangements of the good judges differed little from the objective order, and those of poorer judges showed less agreement. By means of the formula, $1-\frac{6\Sigma d^2}{n(n^2-1)}$, a numerical value was calculated for correctness and for the personal consistency of the two trials of each subject in each situation, as shown in Table A. In the formula d equaled the difference between the objective

[3] Strong, "The Relative Merits of Advertisements," *Arch. of Psych.*, No. 17; "Applications of the Order of Merit Method to Advertising," this JOURNAL, Vol. VIII., page 600.

[4] Thorndike, "Scale for Handwriting," *Teachers College Record.*

[5] Walton, and Ross, M. G., "Report of N. Y. Branch of the Amer. Psych. Soc.," this JOURNAL, Vol. XI., page 408.

[6] Wells, "A Statistical Study of Literary Merit," *Arch. of Psych.*, No. 7.

[7] Hollingworth, "Experimental Studies in Judgment," *Arch. of Psych.*, No. 29, 1914.

TABLE A

COEFFICIENTS OF CORRELATION FOR CORRECTNESS AND CONSISTENCY

Subjects	Handwriting		Pictures		Weights		Propositions	
	Cor.	Con.	Cor.	Con.	Cor.	Con.	Cor.	Con.
Fri	.904	.940	.190	−.189	.958	.739	.797	.997
Sch	.922	.990	.929	.890	.940	.904	.758	.962
Lul	.986	.975	−.024	.833	.954	.929	.900	.943
Tot	.986	.990	.868	.797	.958	.943	.786	.897
Sto	.990	.979	.111	.779	.990	.950	.936	.875
Kri	.997	.988	.811	.947	.968	.961	.850	.883
Pul	.987	.979	.533	.461	.915	.797	.900	.843
Gil	.950	.990	.850	.665	.883	.940	.611	.829
Gol	.965	.986	.525	.943	.925	.936	.672	.933
Hil	.958	.943	.283	.604	.893	.847	.808	.925
How	.997	.983	.733	.829	.983	.929	.883	.940
Far	.983	.997	.136	.897	.990	.965	.843	.879
Doo	.986	.992	.915	.936	.943	.950	.815	.983
Hor	.968	.972	.854	.936	.918	.929	.929	.954
Lub	.922	.959	.808	.768	.965	.893	.868	.858
Opp	.961	.990	.798	.922	.979	.958	.933	.679
Poo	.984	.986	.390	.465	.993	.940	.868	.933
Fle	.993	1.000	.668	.697	.986	.947	.850	.933
Fer	.950	.983	.929	.950	.983	.929	.915	.940
Cog	.968	.997	.690	.947	.954	.950	.668	.829
Kem	.961	.983	.661	.761	.972	.943	.893	.940
Bul	.986	.979	.750	.886	.961	.875	.908	.965
Ber	.947	.961	.440	.939	.975	.983	.836	.904
Rho	.963	.993	.733	.975	.983	.968	.922	.922
Con	.979	.961	.815	.975	.947	.890	.790	.940
Har	.928	.968	.658	.822	.983	.961	.893	.854
Wel	.993	.993	.408	.775	.858	.847	.808	.875
Jac	.993	.990	−.082	.658	.993	.954	.958	.986
Pal	.940	.975	.722	.922	.968	.958	.736	.808
Dec	.993	.990	.704	.586	.965	.922	.868	.886
Kel	.997	.997	.078	.525	.968	.865	.736	.915
Gro	.986	.986	.733	.968	.986	.993	.886	.961
Kir	.975	.968	.672	.940	.993	.954	.761	.940
Mos	.978	.979	.329	.897	.986	.979	.954	.983
Average	.97	.92	.58	.77	.96	.92	.84	.91

order and the position to which the individual assigned the item, n was the number of items, fifteen, when the coefficients for correctness was computed. When a numerical value for personal consistency was calculated, d equaled the difference in position on the first and second trials. The coefficient for correctness indicated the judicial capacity of the individual in that situation. In judging for legibility the coefficient of the best judge was .997 and that of the poorest was .904; for kindliness the ratio of the best to poorest was .929 to —.082; for heaviness .993 to .858; for belief .958 to .611. The coefficient of personal consistency afforded a measure of the consistency of the individual in the two trials. The ratio of the coefficient of the most consistent to that of the least consistent in judging for legibility was 1.00 to .940; for kindliness .975 to —.189; for heaviness .993 to .739; for belief .997 to .679.

The problem arises: Is there such a thing as general judicial ca-

pacity?—Is the person who is a good judge in one situation also a good judge in another? By arranging the coefficients for judicial capacity for each material separately in order with the highest at the top and the lowest at the bottom, the relative positions of all observers were established. On the basis of these orders for judicial capacity for each material were computed the coefficients of correlation between each material and every other material (Table B).

TABLE B

COEFFICIENTS FOR CORRECTNESS (JUDICIAL CAPACITY)

	Legibility	Kindliness	Heaviness	Belief
Legibility		−.20	.16	.19
Kindliness	−.20		−.24	−.07
Heaviness	.16	−.24		.44
Belief	.19	−.07	.44	
Average: .05				
P. E.... .11				

The average of these coefficients was .05, or nearly zero. By comparing the observers who rank among the highest five in judicial capacity for each material it was found that there were seventeen individuals represented. Two of the three who were good in two materials were among the worst five in the other cases. It appears from the data that there is no such thing as general judicial capacity, *i. e.*, for one to be a good judge of the heaviness of a weight or the legibility of handwriting does not mean that he will be an equally good judge of the kindliness of a person or the truth of a statement.

Is the individual who is consistent in one situation also consistent in another? The only recorded experiments on this point are those of Hollingworth, in which ten observers gave judgments of the comic and judgments of persuasiveness of appeals. His results suggest "no likelihood that an individual who judges the one sort of material consistently will judge with relatively equal consistency in other situations." From the numerical values assigned to consistency the relative order of the observers was obtained, and by the formula the correlation of consistency of the two trials for the different materials was computed (Table C). The average was .11, or practically zero.

TABLE C

COEFFICIENTS FOR PERSONAL CONSISTENCY

	Legibility	Kindliness	Heaviness	Belief
Legibility		.02	.13	−.14
Kindliness	.02		.51	.07
Heaviness	.13	.51		.09
Belief	−.14	.07	.09	
Average: .11				
P. E.... .11				

It is further true that the position of one of the highest five in one of the four situations was occupied by eighteen different observers. The conclusion may be drawn that there is probably no characteristic personal consistency in the judgments of various materials at different times.

The next question follows these: What is the relation between judicial capacity and personal consistency? Is the most consistent judge the best judge? The judicial capacity and personal consistency were correlated and the coefficients thus obtained showed to what degree personal consistency and judicial capacity were found together (Table D). If the materials are arranged in order, heavi-

TABLE D

COEFFICIENTS SHOWING RELATION BETWEEN JUDICIAL CAPACITY AND PERSONAL CONSISTENCY

		P.E.
Legibility	.46	.09
Kindliness	.49	.09
Heaviness	.63	.07
Belief	.21	.11

ness, with the highest coefficient, stands at the top and belief, with the lowest, at the bottom. Judgments for heaviness of a weight are thus seen to be objective, while judgments for the belief of a statement are subjective, and those for kindliness and legibility are less objective and less subjective than judgments for heaviness and belief, respectively. Further experiments are needed, but the data indicate that the correlation between judicial capacity and personal consistency depends upon the objectivity of the judgments, *i. e.*, the more objective, the greater correlation, the more subjective, the less correlation.

The results given in Table E, showing the mean variation of each item from the average, are similar to those of Hollingworth, Wells, Strong, Downey, indicating the smaller variability at the ends of the series. This holds for both trials. It would be interesting to know whether the average variability would be increased or decreased or remain about constant on the several trials, but further experiments are needed before a conclusion may be drawn. The difference, if any, of the end variation as compared with that at the middle, on the various trials, would be seen from further experiments.

SUMMARY

1. There is no such thing as general judicial capacity.

2. Individuals who are consistent in one situation are not necessarily equally consistent in judging another situation.

3. The data suggest that the correlation between judicial capacity

TABLE E

VARIABILITY FROM THE AVERAGE

Final Order:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Av.
Propositions	*H*	*F*	*G*	*E*	*J*	*L*	*I*	*K*	*P*	*M*	*A*	*D*	*B*	*O*	*C*	
M. V. First arrangement	.40	.67	2.63	1.12	2.10	1.57	1.53	1.58	3.20	2.67	2.21	1.35	1.88	2.73	.76	1.76
Second arrangement	.37	.75	2.53	1.23	1.91	1.74	1.55	1.75	3.41	2.56	1.48	1.39	1.32	1.45	.16	1.57
Weights	*A*	*K*	*O*	*B*	*F*	*E*	*D*	*P*	*M*	*I*	*J*	*L*	*G*	*H*	*C*	
M. V. First arrangement	.48	.77	.84	.79	.82	.83	.98	1.10	.68	1.07	.92	.96	1.07	.60	.80	.84
Second arrangement	.51	.46	.99	.87	.85	1.04	.74	.88	1.00	1.16	.75	.94	.76	.93	.90	.85
Photographs	*F*	*O*	*E*	*D*	*I*	*J*	*C*	*G*	*B*	*H*	*M*	*A*	*L*	*K*	*P*	
M. V. First arrangement	1.92	2.52	3.28	2.46	3.15	3.05	2.99	3.38	2.50	2.51	3.11	3.07	2.51	2.69	3.23	2.81
Second arrangement	2.95	3.08	3.44	2.34	3.84	2.96	2.98	3.59	2.97	2.61	3.13	3.43	2.31	3.13	3.21	3.07
Handwriting	*I*	*M*	*A*	*D*	*L*	*H*	*K*	*B*	*E*	*F*	*G*	*P*	*O*	*J*	*C*	
M. V. First arrangement	.48	.50	.86	1.62	.92	.82	1.07	.69	.72	.74	.38	.05	.15	.03	.18	.61
Second arrangement	.45	.92	.79	1.44	.94	.96	.80	.73	.66	.51	.09	.06	.25	.22	.15	.60

and personal consistency varies with the objectivity of the judgments.

4. The results confirm the statements of others that the variability is less at the ends of the series. This is true for both trials.

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REVIEWS AND ABSTRACTS OF LITERATURE

Jahrbuch der Philosophischen Gesellschaft an der Universität zu Wien. Leipzig: Verlag von Ambrosius Barth. 1913. Pp. 108.

Die Sittenlehre des Zarathustra in Rahmen der Geschichte der Sittlichkeit. WOLFGANG SCHULTZ.

This paper purports to examine, in the light of its historical connections, the essential doctrines of Mazdaism, the foundations of which are ascribed to Zarathustra. To Nietzsche is due the first general cognizance of the name of Zarathustra. Employed by him as the catchword for his own world view, the article maintains that this position is exactly the contrary of the teachings of Mazdaism. It is owing to the general ignorance on this subject that such a comparison could pass unnoticed. Thus it is maintained that while Nietzsche is interested in expounding a doctrine which transcends good and evil and thereby establishing new values in the realm of morality, Mazdaism holds fast to these conceptions, the significance of which are comprehensible in their relation to the sentiments and needs of the Irenians. For Nietzsche, true and false are insane values; for Mazdaism, truth is the essential thing in the world, falsity is absolutely an evil. Again, for Nietzsche, the individual is the only object of concern, while Mazdaism demands public-spiritedness as an approach to the good.

The above conclusions with respect to the tenets of Mazdaism are derived first by means of a comparison of the views of the Irenians (as exposed in Mazdaism) with non-Aryan ideas. Then the points of similarity and difference between the Aryan and Semitic views, more particularly those of the Sumarians, Egyptians, and Babylonians, are developed. In this way that which is novel in Mazdaism is brought to light, thereby permitting a better understanding of these teachings. It appears from examination of inscriptions that the Sumarians, Babylonians, and Egyptians give no evidence of a conception of a world order raised to clear consciousness, but rather these nations seemed to possess a more or less rich mass of detached teachings. In contrast with this, common to both Indians and Irenians (both Arayan nations), there appears the idea of a world order which is identical with a moral order. The course of the world, the doings of man, the gods themselves are subject to this order. Piety is a correspondence with this order.

Die Verirrten des Cartesius und das Auxiliarmotiv. (Zur Psychologie des Enschlusses). OTTO NEURATH.

This paper may be welcomed as a timely caution to those who are of the opinion that at the present time all decisions may be the result of rational choice. At the same time the reviewer may question the tenet of rationalism that such a position is even a possible ideal. Descartes formulated provisional rules for action in cases where insight into the reasons for choice are denied. He believed that eventually all human actions could have a rational basis. The author asserts that Descartes committed a fundamental error in failing to include theoretical considerations among the above activities. To create a world theory or a scientific system involves working with doubtful premises, choice between equally probable hypotheses.

But Descartes was concerned only with the manner in which one should carry out a resolution made upon a basis of insufficient knowledge. This paper considers the question of how empirically such a resolution is reached. The expression, "auxiliary motive," is used to express the reason for choice in the absence of a ground for selection inherent in any of the possible modes of action. This motive is simply the necessity of realizing some one hypothesis; it functions in cases of hesitation. In its purest form this "auxiliary motive" may be recognized in the conception of fate. Authority (oracles, signs, prophecies), instinct, and, finally, pseudo-rationalism are more highly developed phases of the same motive. But pseudo-rationalism, contending that at the present time it is possible to have all of our activities regulated by knowledge, all of our decisions determined by insight, is guilty either of self-delusion or hypocrisy. The chief triumph of rationalism is the clear recognition of the boundaries of existing knowledge. We live in the time of pseudo-rationalism, but the auxiliary motive is advanced as well adapted to serve as the medium between tradition and rationalism, signs of whose advent may now be detected.

Über den Begriff des Gegenstandes in Meinongs Gegenstandstheories. ERNST MALLY.

In view of the objection that Meinung unjustifiably extends the employment of the concept of the object (*Begriff*), the author takes the opportunity to examine more closely into the significance of this idea in Meinung's theory. First, it is maintained that the object embraces everything which is an object of thought, be it real or possible, thus including the abstract and the psychical. Mathematics serves to illustrate that this is no artificial extension of the term. But the theory does not treat the objects as objects of thought. One of its basal tenets is that "objects," as objects, are completely independent of thought. Such a construction of thinking as a differential, for example, is entirely independent of our thought of the differential. Again, existence is not essential to the object. Experience alone, a further judgment, can justify the qualification of being or existence to the object. Finally, value, which might appear to present great difficulty to the acceptance of this theory, may also be construed in accordance with it. Value, be it only the subjective or personal

value of a thing, does not inhere in the feeling of the value. The value which I appreciate is not the feeling of the value. The author concludes with the view that the above theory of the object would protect us from a false metaphysics.

Das Heimweh. KARL SCHRÖTTER.

The phenomenon of homesickness is here selected for examination because, as the author concludes, it proves to be a psychical phenomenon well worthy of consideration since it may serve as a type of what he calls a "mooring for the feelings" (*Gefühlsverankerung*). The discussion is opportune, as increasing facilities in world-wide communication of peoples is rapidly causing the disappearance of this feeling. The strength and wide prevalence of this psychical phenomenon is attested in certain kinds of poetry, such as folksongs. The general theoretical question of the psychophysical is intentionally omitted.

Proceeding to the analysis of the symptoms of homesickness, its relation to anxiety is developed. The first essential characteristic of homesickness is the feeling of otherness. Otherness passes into strangeness which is an unpleasant experience. Strangeness is related to anxiety. Anxiety, then, is an essential characteristic of homesickness. Now anxiety differs from fear in lacking a definite object. The next step in the discussion consists in pointing out the connection of anxiety with certain sexual phenomena. The author accepts Freud's hypothesis to the extent of allowing that suppressed sexuality is converted into anxiety. But he is far from admitting that homesickness is to be entirely explained upon the basis of sexuality. As the author sums up in conclusion: "In the period of puberty there arise under the influence of inner secretional processes, of which the significance for psychology is just as important as unrecognized, certain new sensations, perceptions, feelings, of which the individual can make nothing." "If the individual concerned is distant from his homeland, this group of feelings will be connected with the indeterminate, but related homesickness, and, moreover, will be interpreted as such."

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JOURNALS AND NEW BOOKS.

THE PHILOSOPHICAL REVIEW. May, 1914. *Why the Mind Seems to be and Yet Can not be Produced by the Brain* (257–270): H. WILDON CARR. – The mind and the brain function only in union with each other, and that is why the mind seems to be produced by the brain; and yet brain and mind are "absolutely incommensurable," the brain being material and spatial, the mind being non-spatial and temporal (pure duration), and that is why the mind can not be produced by the brain. *Roger Bacon and Experimental Method in the Middle Ages* (pp. 271–298): LYNN THORNDIKE. – An inquiry into Bacon's discussion of experimental science, correcting the view that great originality is due to Bacon, and maintaining that his conception represents an "important movement of the time in the direction of experimental method." The actual status of

contemporaneous experimentation is determined. *The Problem of Knowledge from the Standpoint of Validity* (pp. 299–316): ARCHIBALD A. BOWMAN. – Knowledge is primarily a question of validity, the determining character of which lies in a certain proportionateness between presentative (sense experience) and interpretative (import, meaning) factors, the two factors constituting a unity and the one necessarily implying the other. This view of knowledge is further elaborated in view of the difficulties besetting the position. Definition of knowledge in terms of validity rather than of completeness or degrees of adequacy is defended and explained. *A Faith Philosopher of the Eighteenth Century* (pp. 317–332): NORMAN WILDE. – An exposition of the life, writings, and philosophical doctrines of Friedrich Heinrich Jacobi, "Realist, individualist, pluralist, empiricist, man of faith, in all save incisiveness of thought and picturesque concreteness of style; he is the William James of the late eighteenth century." *Reviews of Books:* R. Hackforth, *The Authorship of the Platonic Epistles:* A. E. TAYLOR. L. T. Hobhouse, *Development and Purpose, an Essay towards a Philosophy of Evolution:* HARRY ALLEN OVERSTREET. William Caldwell, *Pragmatism and Idealism:* HENRY W. WRIGHT. *Notices of New Books. Summaries of Articles. Notes.*

REVUE DE METAPHYSIQUE ET DE MORALE. July, 1914. *La Valeur Morale de la Science* (pp. 431–455): G. BELOT. – A study of the general and essential relations between science and morality conceived as two primordial values. *L'Innéisme Cartésien et la Théologie* (pp. 456–499): E. GILSON. – An attempt to show that Descartes's doctrine of innate ideas had its origin in his theological training. *Du Sentiment Religieux dans ses Rapports avec l'Art* (pp. 500–516): G. DWELSHAUVERS. – This problem must be solved by taking the facts as they appear, with all their entangling interactions, and their full psychological coloring, and not by applying simple laws to an evolution from primitive forms. *Études Critiques. La Coutume Ouvrière d'après M. M. Leroy:* G. AILLET. *Questions Pratiques. Le Sentiment Patriotique:* G. SIMÉON. *Supplément.*

Davis, Thomas Kirby. Mind and Spirit. Boston: Sherman, French, and Company. 1914. Pp. 115. $1.00.

Driesch, Hans. The History and Theory of Vitalism. Tr. by C. K. Ogden. New York: The Macmillan Company. 1914. Pp. viii + 239. $1.40.

Glover, William. Know Your Own Mind. Cambridge: University Press. 1914. Pp. vii + 204.

Goddard, Henry H. Feeble-Mindedness. New York: The Macmillan Company. 1914. Pp. xii + 599. $4.00.

Hammacher, Emil. Hauptfragen der Modernen Kultur. Leipzig und Berlin: Verlag von B. G. Teubner. 1914. Pp. iv + 351. 10 M.

Smith, Stevenson; Wilkinson, Madge W.; Wagoner, Lovisa C.; A Summary of the Laws of the Several States Governing (I) Marriage and Divorce of the Feeble-minded, the Epileptic, and the Insane. II. Asexualization. III. Institutional Commitment and Discharge of the Feeble-minded and the Epileptic. Bulletin of the University of Washington, No. 82. Pp. 87.

NOTES AND NEWS

In the 1913 presidential address to the Linnean Society, noticed in *Nature* for January 22, 1914,[1] Professor Poulton gave an account of an American booklet by G. W. Sleeper, dated 1849. The work, if genuine, was an extraordinary anticipation of many modern conclusions on evolution and the germ theory of disease. The booklet itself had been sent, early in 1913, to the late Dr. A. R. Wallace by a Mr. B. R. Miller, who stated that he had bought it at a second-hand book store in 1891 or 1892. Professor Poulton had also heard of the existence of three other copies in the possession of the author's son, Mr. J. F. Sleeper. It was pointed out in last year's address that the work was not registered, as stated; that the word "agnostic," introduced by Huxley in 1869, was used in its pages; and that there was no reference to it in an undoubtedly genuine, but commonplace pamphlet published by the author in 1860. Nevertheless, the get-up of the booklet appeared to be so genuine and the style so convincing that many critical authorities were by no means convinced that it was a forgery. Professor Poulton, having directed attention to the subject, felt that he must make every effort to produce a body of evidence which would finally decide the question. The investigation, which could not be hurried, was only complete by Easter of the present year, and its results were communicated to the Linnean Society in the anniversary address on May 25 last. The evidence then presented to the Fellows will doubtless lead to the undisputed conclusion that the work is a forgery, and probably a very late forgery. *The Type.*—Mr. J. W. Phinney, manager of the American Typefounders' Company, Boston, after an exhaustive inquiry, concluded that it was "impossible that the title-page could have been set at the date claimed for it." *The Contract with the Printer.*—This document, forwarded by Mr. J. F. Sleeper, satisfied many authorities, but aroused the suspicions of Professor C. H. Firth and afterwards of Sir Frederick Kenyon and Sir George Warner. The printer's signature, dated 1890, kindly sent by his daughter, Mrs. Endicott, was similar to that appended to the contract. It was submitted to Sir George Warner, who thought it "very remarkable that after so long an interval as forty years the signatures should be so precisely identical," and considered it "almost easier to believe that the early one is a forgery from a considerably later example." A little later Mrs. Endicott succeeded in finding another late signature also similar to that of the contract, and two early ones, dated 1856 and 1858, in both of which the B of Bense was very differently formed. It was evident, as Sir George Warner had predicted, that the signature of the contract had been copied from a late signature of the printer, W. Bense. Other evidence of falsification was also submitted to the meeting, and will appear in the pages of the Society's Proceedings. It was suggested in conclusion that the author, self-deceived as to the importance of his own ideas, really believed that he had forestalled many conclusions of modern science. In this way he might defend the falsification of evidence as the only means by which justice could be

[1] Noted in this JOURNAL, Vol. XI., page 190.

done not only to himself, but to the history of thought. A similar interpretation might be offered if we suppose— and many reasons were given for the belief—that the forgery was committed after the author's death by one who knew his feelings and shared his delusion that he was the victim of injustice.

THE pageant which Columbia University planned to give in November in honor of the seven hundredth anniversary of the birth of Roger Bacon has been postponed to a date to be announced later. So many members of the university felt unable, on account of the war in Europe, to enter into the performance whole-heartededly that the necessary cooperation for this large undertaking would obviously have been lacking or at least impaired. It was also feared that some unforeseen calamity might mark the progress of the war at any moment, and the peageant, if undertaken now, might have to be abandoned. The committee in charge hope to give the performance in the spring, or as soon as the European situation is on the way toward certain improvement. All the preliminary arrangements for the pageant are completed. The text is now offered for sale by the Columbia University Press in a limited edition and also in a cheaper edition.

AT the University of Pennsylvania the following changes have taken place in the department of psychology: Edwin Burket Twitmyer, Ph.D., has been promoted from an assistant professorship to a full professorship, and is to be assistant director of the laboratory of pychology; Francis N. Maxfield, Ph.D., has been made assistant professor; Dr. David Mitchell and Mr. Frank H. Reiter have been appointed instructors.

AMONG the German scientific men who have affixed their names to a manifesto renouncing the honors conferred upon them by English universities and institutions are Ernst Haeckel and Wilhelm Wundt.

DR. H. C. STEVENS, associate professor of psychology in the University of Washington, has been appointed associate professor of education in the University of Chicago.

DR. F. M. URBAN, professor of psychology, in the University of Pennsylvania, is in Austria, and is said to be with the Austrian army.

MESSRS. WILLIAMS AND NORGATE, London, announce that Mr. Balfour's Gifford lectures, "Theism and Humanism" will be published this month.